

[REDACTED] ON

UT-12

HAER,
UTAH,
25-GOSH,
1-

Tintic Standard Reduction Mill (Harold Mill)
W. side of Warm Springs Mtn., .6 mi. E. of U.S 6, 2.5 mi. E. of Goshen
Utah County
Utah

Photographs and
Written and Historical data

Historic American Engineering Record
Heritage Conservation and Recreation Service
Department of Interior
Washington, DC 20243

Historic American Engineering Record

Tintic Standard Reduction Mill
(Harold Mill)

HAER- UT-12

Location: Near Warm Springs, two miles east of Goshen Township, Utah

Date: 1919-1921

Original Owner: Tintic Standard Mining Company

Present

Owner: Tintic Standard Mining Company

Condition: abandoned

Significance: The Tintic Standard Reduction Mill was the only use of the antiquated Augustin process in the United States during the early 1920's.

Historian: T. Allan Comp, PhD, 1972

TINTIC STANDARD REDUCTION MILL

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The Tintic Standard Mining Company was incorporated by Emil J. Raddatz in October of 1907. John Bestlemeyer, Greely Snyder, and George Horton, Sr. all owned mining claims that became part of Tintic Standard and a large part of the money for the 1,175,000 shares of stock came from people in Milwaukee.¹ The first commercial ore was encountered in 1916 and by 1917 big scale production had begun.² Established as an important silver producer in the Tintic district, during 1919 and 1920 Raddatz undertook the construction of a small ore mill to be known as the Tintic Standard Reduction Mill.

The mill was built on a hillside near Warm Springs, two miles east of Goshen Township, Utah. It was designed and constructed under the direction of W. C. Madge who consulted with Theodore P. Holt and George C. Dern, developers of the well-known Holt-Dern roaster used in numerous smelters. Built at a cost of \$580,000, the mill was reported to be 80 per cent complete by the end of 1920

¹ Raymond Duane Steel, Goshen Valley History Part IV n.p.: 1960. p. 211

² Salt Lake Mining Review, October 15, 1927.

despite "adverse labor conditions."³ Operations initially got underway in February of 1921 and by April the mill was "working at full capacity in every department."⁴ The mill initially processed 140 tons per day, but by March 1921 it was treating between 160 and 180 tons per day.⁵ After two furnaces for roasting sulphide ores were added during 1922, capacity was expected to increase to 200 tons per day, or somewhat less than half of the daily production of the mine.⁶ Metallurgical research work by the company developed a method of recovering lead from the ore and a lead unit was added to the mill during the first half of 1922.⁷

The mill, however, did not last long.

It soon developed that the mine in the condition it then was, could not supply an adequate tonnage of ore of the grade and composition for which the plant was designed. The ore did not return as much net profit as if it had been sent to the smelter.⁸

Operations at the mill, which worked around the clock with about 25 men on each shift, were shut down in the fall of 1925.⁹ The mine continued to operate successfully, but no mention of the mill is made in the company reports after

³ Salt Lake Mining Review, April 15, 1921.

⁴ Ibid.

⁵ Salt Lake Mining Review, March 30, 1921.

⁶ Salt Lake Mining Review, January 15, 1922 and January 15, 1924.

⁷ Salt Lake Mining Review, April 30, 1922.

⁸ Raymond Duane Steel, op.cit., pp 231-32.

⁹ Ibid. p. 232.

this date. Harry P. Allen was superintendent of the mill and Lou Whimpey worked as foreman during its five years of operation.

A small town, named after Raddatz's son Harold, grew up while the mill was in operation. It consisted of a boarding and lodging house, a commissary, and three of four houses for the mill officials. In addition, these few years were "almost a boom period" for Goshen, since the town was located between the mine and the mill.¹⁰

The Tintic Standard Reduction Mill was the only use of the antiquated Augustin process in the United States during the early 1920's.¹¹ An acid-brine chloridizing and leaching mill, ore was first roasted with salt, then leached in a strong brine solution, then precipitated with copper. Each batch required 140 hours to run, but recovery rates were fairly high. In 1924 the mill recovered 88% of the silver, 60% of the copper, 32% of the lead, and 7% of the gold held in the ore.¹²

Except for its "unique" process--perhaps antiquated is a better word--this author can attach no "significance" to the Tintic Standard Reduction Mill.

AT
Allan Comp
Project Historian
August 1972

¹⁰ Ibid.

¹¹ John L. Bray, The Principles of Metallurgy. New York: 1929. p. 359.

¹² Ibid. p. 366 & passim.

BIBLIOGRAPHY

Few sources of any real utility were uncovered in research. None of the national mining journals consulted carried anything of significance, but one discussion of milling practice at the Tintic Standard Reduction Mill was encountered and is included with the report. Notes from the local mining journal are also attached.

Bray, John L. The Principles of Metallurgy.
New York: 1929.

<u>Salt Lake Mining Review</u>	March 30, 1921
	April 15, 1921
	July 30, 1921
	January 15, 1922
	April 30, 1922
	January 15, 1924
	January 15, 1925
	October 15, 1927

Steele, Raymond Duane. Goshen Valley History.
Part IV. n.p.: 1960.